

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (original): An image processing apparatus comprising:
 - an original stage;
 - a scanner establishing at least one scan region at the original stage, scanning the scan region established at the original stage, and outputting image data corresponding to the scan region;
 - an image processor accepting input of image data and carrying out processing on the image data; and
 - a controller controlling the scanner and the processor, and carrying out operations in accordance with any of one or more operational modes including a first operational mode; wherein the controller, when carrying out operations in accordance with the first operational mode,
 - controls the scanner so as to cause the scanner to establish the scan region such that the scan region matches or is larger than a copy subject region at the original stage and such that the copy subject region is encompassed by the scan region; and
 - controls the image processor so as to cause the image processor to accept input from the scanner of image data corresponding to the scan region and to output enlarged image

data obtained by enlarging, so as to be larger than a dimension or dimensions of the print medium in either a horizontal direction or a vertical direction or in both a horizontal direction and a vertical direction, image data corresponding to the copy subject region that is encompassed by image data corresponding to the scan region.

2. (original): An image processing apparatus according to claim 1 further comprising a printer using image data output by the image processor to carry out printing at the print medium.

3. (original): An image processing apparatus according to claim 1 wherein the controller assumes existence of a region corresponding to an original placed on the original stage based on a previously specified original size, and deems that the assumed region corresponding to the original is to be the copy subject region.

4. (original): An image processing apparatus according to claim 1 wherein the controller detects a region corresponding to an original placed on the original stage through use of the scanner, and deems that the detected region corresponding to the original is to be the copy subject region.

5. (original): An image processing apparatus according to claim 1 wherein an arbitrary region at the original stage is specified by a user, and the controller deems that the region specified by the user is to be the copy subject region.

6. (original): An image processing apparatus according to claim 1 wherein the controller detects a copy subject within an original placed on the original stage through use of the scanner, establishes a region encompassing the detected copy subject, and deems that the established region is to be the copy subject region.

7. (original): An image processing apparatus according to claim 4 wherein:
the scanner prescans the original stage prior to scanning of the scan region and outputs prescan image data corresponding to the original stage; and
the controller detects a region corresponding to the original based on the original stage prescan image data.

8. (original): An image processing apparatus according to claim 3 wherein:
the scanner prescans the original stage prior to scanning of the scan region and outputs prescan image data corresponding to the original stage; and
the controller detects the copy subject based on the original stage prescan image data.

9. (original): An image processing apparatus according to claim 2 wherein:

the controller controls the printer so as to cause a positional relationship of a print start location relative to the print medium to vary in correspondence to a magnification employed when the image processor enlarges image data corresponding to the copy subject region.

10. (original): An image processing apparatus according to claim 1 further comprising:

image input circuitry accepting input of image data from an image-containing-data source other than the scanner;

wherein the one or more operational modes include a second operational mode; and

the controller, when carrying out operations in accordance with the second operational mode, controls the image processor so as to cause the image processor to output enlarged image data obtained by enlarging, so as to be larger than a size of the print medium, a region subject to printing that is within image data input from the image-containing-data source by the image input circuitry.

11. (original): An image processing apparatus according to claim 1 or claim 10 further comprising:

image input circuitry accepting input of image data from an image-containing-data source other than the scanner;

wherein the one or more operational modes include a third operational mode; and the controller, when carrying out operations in accordance with the third operational mode, controls the image processor so as to cause the image processor to create and output superposed image data which is such that a region subject to printing in image data from the image-containing-data source input by the image input circuitry and image data corresponding to the copy subject region that is encompassed by image data corresponding to the scan region which is output from the scanner are superposed, and such that either the region subject to printing or the copy subject region or both the region subject to printing and the copy subject region is or are enlarged so as to be larger than a size of the print medium.

12. (original): An image processing method capable of being carried out by scanner circuitry that scans an original stage and image processing circuitry that processes scan image data from the scanner circuitry, the image processing method comprising:

a step in which at least one scan region is established such that the scan region matches or is larger than a copy subject region at the original stage and such that the copy subject region is encompassed by the scan region;

a step in which the scan region is scanned and image data corresponding to the scan region is obtained;

a step in which image data corresponding to the copy subject region that is encompassed by the obtained image data corresponding to the scan region is enlarged so as to be larger than a dimension or dimensions of the print medium in either a horizontal direction or a vertical direction or in both a horizontal direction and a vertical direction; and

a step in which the enlarged image data corresponding to the copy subject region is output.

13. (original): An image processing method according to claim 12 further comprising a step in which the enlarged image data corresponding to the copy subject region is used to carry out printing at the print medium.

14. (currently amended): A computer-readable medium encoded with a computer-executable program that controls scanner circuitry which scans an original stage and image processing circuitry which processes scan image data from the scanner circuitry, the computer program comprising:

a first program segment for causing at least one scan region to be established such that the scan region matches or is larger than a copy subject region at the original stage and such that the copy subject region is encompassed by the scan region;

a second program segment for controlling the scanner circuitry so as to cause the scan region to be scanned and image data corresponding to the scan region to be obtained;

a third program segment for controlling the image processing circuitry so as to cause image data corresponding to the copy subject region that is encompassed by the obtained image data corresponding to the scan region to be enlarged so as to be larger than a dimension or dimensions of the print medium in either a horizontal direction or a vertical direction or in both a horizontal direction and a vertical direction; and

a fourth program segment for controlling the image processing circuitry so as to cause the enlarged image data corresponding to the copy subject region to be output.

15. (currently amended): A computer-readable medium according to claim 14, wherein the computer program further comprises a fifth program segment for controlling a printing apparatus so as to cause printing to be carried out at the print medium using the enlarged image data corresponding to the copy subject region.

16. (original): An image processing apparatus comprising:
an original stage;
a scanner establishing at least one scan region at the original stage, scanning the scan region established at the original stage, and outputting image data corresponding to the scan region;

an image processor accepting input of image data, carrying out processing on the input image data, and outputting processed image data; and

a controller controlling the scanner and the processor, and carrying out operations in accordance with any of one or more operational modes including a first operational mode;

wherein the controller, when carrying out operations in accordance with the first operational mode,

controls the scanner so as to cause the scanner to establish the scan region such that the scan region is smaller than a copy subject region at the original stage and such that the scan region is encompassed by the copy subject region; and

controls the image processor so as to cause the image processor to accept input of image data corresponding to the scan region and output by the scanner, and to output enlarged image data obtained by enlarging, so as to be larger than a size of the print medium, image data corresponding to the scan region.

17. (original): An image processing apparatus according to claim 16 further comprising a printer using image data output by the image processor to carry out printing at the print medium.

18. (original): An image processing apparatus according to claim 16 wherein the controller assumes existence of a region corresponding to an original placed on the original stage based on a previously specified original size, and deems that the assumed region corresponding to the original is to be the copy subject region.

19. (original): An image processing apparatus according to claim 16 wherein the controller detects a region corresponding to an original placed on the original stage through use of the scanner, and deems that the detected region corresponding to the original is to be the copy subject region.

20. (original): An image processing apparatus according to claim 16 wherein an arbitrary region at the original stage is specified by a user, and the controller deems that the region specified by the user is to be the copy subject region.

21. (original): An image processing apparatus according to claim 16 wherein the controller detects a copy subject within an original placed on the original stage through use of the scanner, establishes a region encompassing the detected copy subject, and deems that the established region is to be the copy subject region.

22. (original): An image processing apparatus according to claim 16 wherein:

the controller causes the scan region to be established such that the scan region is smaller by a prescribed scanner margin than the copy subject region;

the image processor enlarges image data corresponding to the scan region so as to cause the enlarged image data corresponding to the scan region to be larger by a prescribed printer

margin than the print medium in either a horizontal direction or a vertical direction or in both a

horizontal direction and a vertical direction; and

the scanner margin is smaller than the printer margin.

23. (original): An image processing apparatus according to claim 16 wherein:

the controller controls the printer so as to cause a positional relationship of a print start location relative to the print medium to vary in correspondence to a magnification employed when the processor enlarges image data corresponding to the copy subject region.

24. (original): An image processing apparatus according to claim 16 further comprising:

image input circuitry accepting input of image data from an image-containing-data source other than the scanner;

wherein the one or more operational modes include a second operational mode; and

the controller, when carrying out operations in accordance with the second operational mode, controls the image processor so as to cause the image processor to output enlarged image data obtained by enlarging, so as to be larger than a size of the print medium, a region subject to printing that is within image data input from the image-containing-data source by the image input circuitry.

25. (original): An image processing apparatus according to claim 16 or claim 24 further comprising:

image input circuitry accepting input of image data from an image-containing-data source other than the scanner;

wherein the one or more operational modes include a third operational mode; and the controller, when carrying out operations in accordance with the third operational mode, controls the image processor so as to cause the image processor to create and output superposed image data which is such that a region subject to printing in image data from the image-containing-data source input by the image input circuitry and image data corresponding to the copy subject region that is encompassed by image data corresponding to the scan region which is output from the scanner are superposed, and such that either the region subject to printing or the copy subject region or both the region subject to printing and the copy subject region is or are enlarged so as to be larger than a size of the print medium.

26. (original): An image processing method capable of being carried out by scanner circuitry that scans an original stage and image processing circuitry that processes scan image data from the scanner circuitry, the image processing method comprising:

a step in which at least one scan region is established such that the scan region is smaller than a copy subject region at the original stage and such that the scan region is encompassed by the copy subject region;

a step in which the scan region is scanned and image data corresponding to the scan region is obtained;

a step in which the obtained image data corresponding to the scan region is enlarged so as to be larger than a dimension or dimensions of the print medium in either a horizontal direction or a vertical direction or in both a horizontal direction and a vertical direction; and

a step in which the enlarged image data corresponding to the copy subject region is output.

27. (original): An image processing method according to claim 16 further comprising a step in which the enlarged image data corresponding to the copy subject region is used to carry out printing at the print medium.

28. (currently amended): A computer-readable medium encoded with a computer-executable program that controls scanner circuitry which scans an original stage and image processing circuitry which processes scan image data from the scanner circuitry, the computer program comprising:

a first program segment for causing at least one scan region to be established such that the scan region is smaller than a copy subject region at the original stage and such that the scan region is encompassed by the copy subject region;

a second program segment for controlling the scanner circuitry so as to cause the scan region to be scanned and image data corresponding to the scan region to be obtained;

a third program segment for controlling the image processing circuitry so as to cause the obtained image data corresponding to the scan region to be enlarged so as to be larger than a dimension or dimensions of the print medium in either a horizontal direction or a vertical direction or in both a horizontal direction and a vertical direction; and

a fourth program segment for controlling the image processing circuitry so as to cause the enlarged image data corresponding to the scan region to be output.

29. (withdrawn): An image processing apparatus comprising:

an original stage;

a scanner scanning at least one scan region at the original stage and outputting image data corresponding to the scan region;

an image processor processing image data corresponding to the scan region from the scanner, creating print image data, and outputting the print image data; and

a controller selecting any mode from among at least two of a plurality of varieties of copy modes including a normal copy mode, a borderless copy mode, and a unity magnification copy mode, and controlling the image processor in correspondence to the selected mode;

wherein the controller

(1) when the normal copy mode is selected: controls the image processor so as to cause the print image data to be smaller than dimensions of the print medium in both a horizontal direction and a vertical direction;

(2) when the borderless copy mode is selected: controls the image processor so as to cause the print image data to be larger than a dimension or dimensions of the print medium in either a horizontal direction or a vertical direction or in both a horizontal direction and a vertical direction; and

(3) when the unity magnification copy mode is selected: controls the image processor so as to cause a size of the print image data to be the same as a size of image data corresponding to the scan region.

30. (withdrawn): An image processing apparatus according to claim 29 further comprising a printer using the print image data from the image processor to carry out printing at the print medium.

31. (withdrawn): An image processing apparatus according to claim 30 wherein: the controller controls the printer so as to cause a positional relationship of a print start location relative to the print medium to vary in correspondence to the selected mode.

32. (withdrawn): An image processing method capable of being carried out by scanner circuitry that scans an original stage and image processing circuitry that processes scan image data from the scanner circuitry, the image processing method comprising:

 a step in which at least one scan region at the original stage is scanned and image data corresponding to the scan region is obtained;

 a step in which obtained image data corresponding to the scan region is processed and print image data is created;

 a step in which the print image data is output; and

 a step in which any mode is selected from among at least two of a plurality of varieties of copy modes including a normal copy mode, a borderless copy mode, and a unity magnification copy mode;

 wherein the step in which print image data is created includes

 (1) in the event that the normal copy mode is selected: a step in which a size of the print image data is controlled so as to cause the print image data to be smaller than dimensions of the print medium in both a horizontal direction and a vertical direction;

 (2) in the event that the borderless copy mode is selected: a step in which a size of the print image data is controlled so as to cause the print image data to be larger than a dimension or dimensions of the print medium in either a horizontal direction or a vertical direction or in both a horizontal direction and a vertical direction; and

(3) in the event that the unity magnification copy mode is selected: a step in which a size of the print image data is controlled so as to be the same as a size of image data corresponding to the scan region.

33. (withdrawn): A computer program that when executed by a computer causes the computer to control scanner circuitry which scans an original stage and image processing circuitry which processes scan image data from the scanner circuitry, the computer program comprising

a program segment for controlling the scanner circuitry so as to cause at least one scan region at the original stage to be scanned and image data corresponding to the scan region to be obtained;

a program segment for controlling the image processor circuitry so as to cause obtained image data corresponding to the scan region to be processed, and so as to cause print image data to be created and output; and

a program segment for causing any mode to be selected from among at least two of a plurality of varieties of copy modes including a normal copy mode, a borderless copy mode, and a unity magnification copy mode;

wherein the program segment for controlling the image processor circuitry includes

(1) in the event that the normal copy mode is selected: a program segment for causing a size of the print image data to be controlled so as to cause the print image data to be smaller than dimensions of the print medium in both a horizontal direction and a vertical direction;

(2) in the event that the borderless copy mode is selected: a program segment for causing a size of the print image data to be controlled so as to cause the print image data to be larger than a dimension or dimensions of the print medium in either a horizontal direction or a vertical direction or in both a horizontal direction and a vertical direction; and

(3) in the event that the unity magnification copy mode is selected: a program segment for causing a size of the print image data to be controlled so as to be the same as a size of image data corresponding to the scan region.

34. (previously presented): A printer system comprising:
a scanner scanning a scan region based on an original region and outputting image data of the scan region;
an image processor receiving image data and generating print data based on the received image data; and
a printer printing at a print medium based on the print data;
wherein a copy target region included in the original region is set based on an indication by a user or the scanner;

wherein the scanner outputs image data which is larger than the copy target region and encompasses the copy target region on the inside; and

wherein the image processor generates the print data by enlarging the image data at a magnification adjusted so as to cause the image data of an outer portion, which is outside of the copy target region to be out of the print medium.

35. (currently amended): A printing method, comprising:

scanning, by a scanning device, a scan region based on an original region; generating, by an image data generating device, image data which is larger than a copy target region and encompasses the copy target region on the inside, the copy target region which is included in the original region and is set based on an indication by a user or a predetermined setting;

generating, by an image processing device, print data by enlarging the image data at a magnification adjusted so as to cause the image data of an outer portion, which is outside of the copy target region, to be out of the print medium; and

printing, by a printing device, at the print medium based on the print data.

36. (previously presented): A printer system comprising:

a scanner scanning a scan region based on an original region and outputting image data

based on the scan region;

an image processor processing image data outputted from the scanner; and

a printer printing at a print medium based on data processed by the image processor;

wherein the scanner outputs image data of a first region which is on the inside of an edge of the original region by a predetermined scanner margin;

wherein the image processor generates a first print data by processing the image data of the first region outputted from the scanner, at least two sides among outer edge portions of the first print data being out of the print medium; and

wherein the printer prints based on the first print data.

37. (previously presented): A printer system according to claim 36,

wherein a copy target region included in the original region is set based on an indication by a user or the scanner;

wherein the scanner outputs image data of a second region which is smaller than the copy target region;

wherein the image processor generates a second print data by processing the image data of the second region which is smaller than the copy target region, outputted from the scanner, at least two opposing sides among outer edge portions of the second print data being out of the print medium; and

wherein the printer prints based on the second print data.

38. (currently amended): A printing method, comprising ~~the steps of:~~
scanning, by a scanning device, a scan region based on an original region;
generating, by an image data generating device, image data of a first region, which
comprises an inside region of the original region from which an edge portion is eliminated by a
predetermined scanner margin;

generating, by an image processing device, a first print data by processing the image data
of the first region, an edge portion of the first print data ~~is~~being out of a print medium; and
printing, by a printing device, at the print medium based on the first print data.

39. (currently amended): A printing method comprising:
scanning, by a scanning device, a scan region based on an original region;
generating, by an image data generating device, image data of a first region which is on
the inside of an edge of the original region by a predetermined margin;
generating, by an image processing device, a first print data by processing the image data
of the first region, at least two opposing sides among outer edge portions of the first print data
~~are~~being out of a print medium;
printing, by a printing device, at the print medium based on the first print data;

setting, by the scanning device, a copy target region included in the original region, based on an indication by a user or a predetermined setting;

generating, by the image data generating device, image data of a second region which is smaller than the copy target region;

generating, by the image processing device, a second print data by processing the image data of the second region which is smaller than the copy target region, at least two opposing sides among outer edge portions of the second print data being out of the print medium; and

printing, by the printing device, based on the second print data.

40. (previously presented): A printer system according to claim 36, wherein if a size of the print medium is equal to a size of the original region, then the image processor enlarges the image data at a predetermined magnification.

41. (currently amended): A printing method according to claim 38, wherein the generating the first print data, by the image processing device, comprises enlarging the image data at a predetermined magnification if a size of the print medium is equal to a size of the original region.

42. (previously presented): A printer system according to claim 36, wherein the image processor processes the image data based on a scanner margin and a printer margin.

43. (currently amended): A printing method according to claim 38, further comprising processing, by the image processing device, the image data based on a scanner margin and a printer margin.